MICRO THERMO TECHNOLOGIES™

MT Alliance – WattNode Plus Installation Guide

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1 Introduction

1.1 Using this document

This guide is intended for Micro Thermo Technologies trained technicians installing the Continental Control System WattNode Plus™. It is not a complete user guide, but rather a simple step-by-step summary of the instructions for the installation on the MT Alliance.

A complete user guide and a user manual covering specifically the operation of the WattNode Plus™ are available in the following document: WnPlus 1_00UL.pdf

1.2 Conventions used in this document

For your convenience, several screen captures have been added to describe the procedures.

Bold text is used for emphasis or to highlight MT Alliance terms as found on the interface.

2 Step by Step Procedure

2.1 Installation and Wiring of the unit

On the Y model neutral and phase A must be connected to power line and you should see the service light while pressing the service button.

For more information see the WattNode Plus user's guide (PUID 70-3RD-1003)

3 MT Alliance

After the physical installation, the configuration parameters must be loaded into the controller.

3.1 Adding WattNode Plus View (optional)

1. You don't have to be in configuration **Mode**.
2. In the **Configure** menu, select **Views**. The **View Configuration** window opens.
3. Click **Energy** in the **Subsystem** menu.
4. Select the view after witch you want the WattNode Plus view to be inserted.
5. Click the **Insert after** button. A new view without any images appears.
6. Type the name (PowerRoom) of the view in the **View Name** field.
7. Click the **Change Image** icon. The **Open File** dialog box appears. Select and open the Image to get a graphic representation of the desired view if it exists (i.e. Service Board.bmp):
8. If you wish, you can check the **Zoom** box. Thus, only custom point status will be seen in the normal view when you place them on a view close up.

3.2 Adding the Custom node WattNode Plus

Figure 1 – Navigator Bar

1. In the **Subsystem** menu, select **Energy** or click the left menu of the navigator bar and click on the **Energy Subsystem**.
2. In the **Mode** menu, select **Configuration**. When entering this mode, a components toolbox appears in the bottom right corner of the window. It contains all the items that can be placed in the view.

3. Select the view by clicking on the View menu or on the right menu of the navigator bar and click on the desired view name.
4. Drag and drop a node icon from the **Components** toolbox to the view. As soon as the icon is dropped, the **Node Definition** window opens. Select in dropdown list the custom node **Node type** the Unknown Manufacturer and Unknown Model.

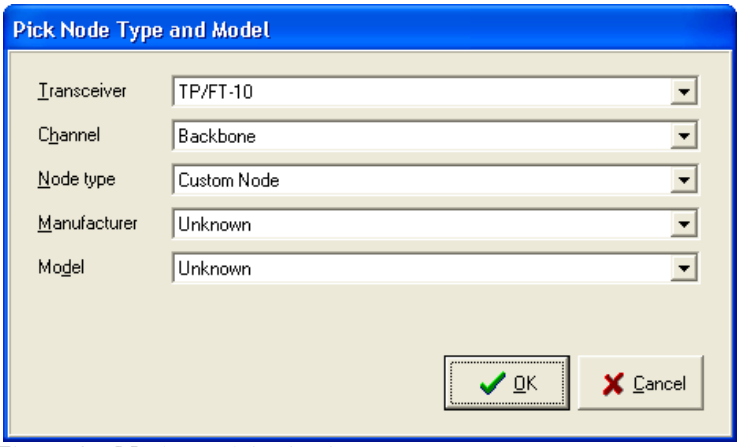


Figure 2 – Node model selection

5. Click the **OK** button to finish or **Cancel** to start over.

To move an icon, select it while pressing the CTRL key and move it with the mouse.

Once the node is placed, it must be configured and associated with the controller.

1. Click the node icon. The **Custom Node Information** dialog box opens.
2. Select the **Details** tab.

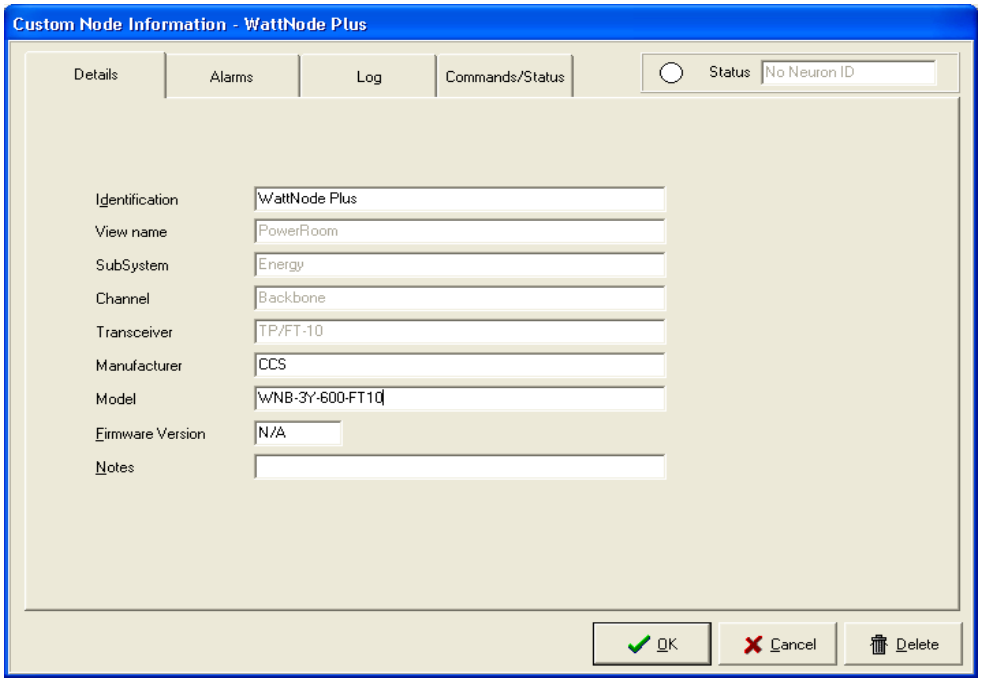


Figure 3 – Node Details tab

3. Type a unique name for the node (WattNode Plus) in the Identification field, the Manufacturer name (CCS) and the node model and, if you wish, some information in the Notes field.
4. Select the **Commands/Status** tab, uncheck "*Supports Write To Flash*"
5. Before installing it make sure you have powered on the WattNode Plus (see section 2.1)

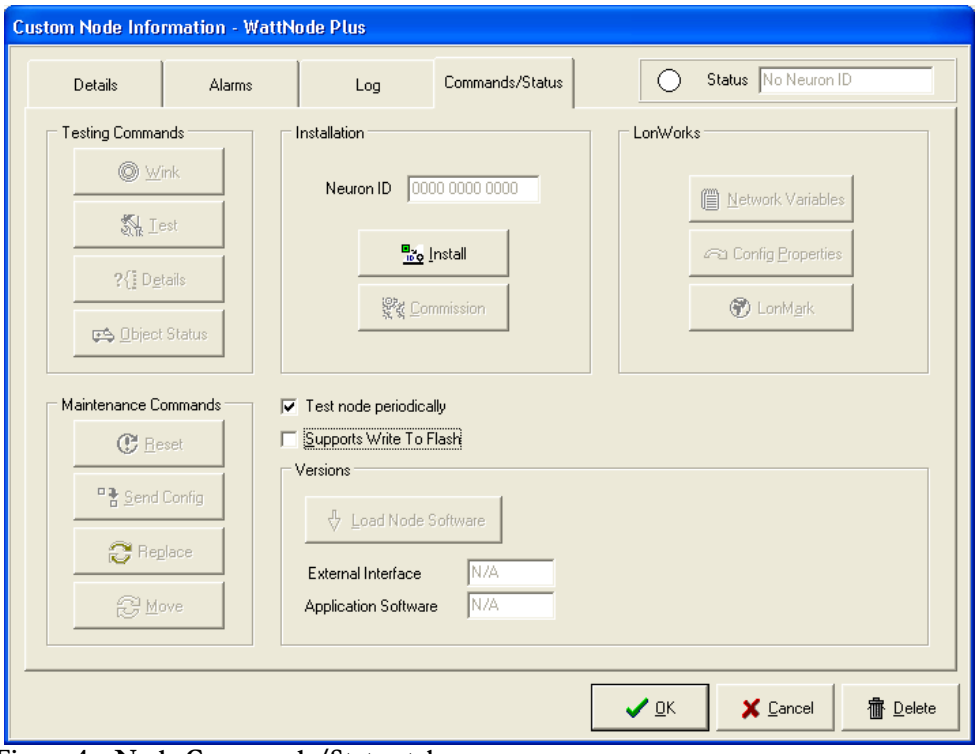


Figure 4 – Node Commands/Status tab

6. In the Installation box, click the **Install** button.
7. The **Install a Custom Node** dialog box opens and prompts you to click the **Service** button of the WattNode Plus. For manual entry, see the "Node Installation" manual. Once the installation is completed, all the window buttons are activated.

   For more information on the Testing and Maintenance Commands refer to the MT Alliance – Node Installation Manual
8. To keep network traffic to an acceptable level click on "Network Variables" button and set the following variables to the appropriate value

   nciCtAmps_f set to current range max (ex: 800 for a 0-800A CT)

   nciDemPerMins 5

   nciEngyUpdtT 00:00:20

   nciPwrUpdtT 00:00:20

   nciReacUpdtT 00:00:20

If only one phase is working you may have to enable the other phases by putting "12" in nviCalSel then the number of active phase will be display by nviCal. Enter a value from 1 to 3 in nviCal to enable that number of phases. Be very careful if doing so. This is also the gate for Current sensor calibration and it can't be undone. See the WattNode Plus user's guide in the Calibration section for more information.

If the value of nvoPower and nvoPF are negative it may be because one or more CTs are installed wrong way.

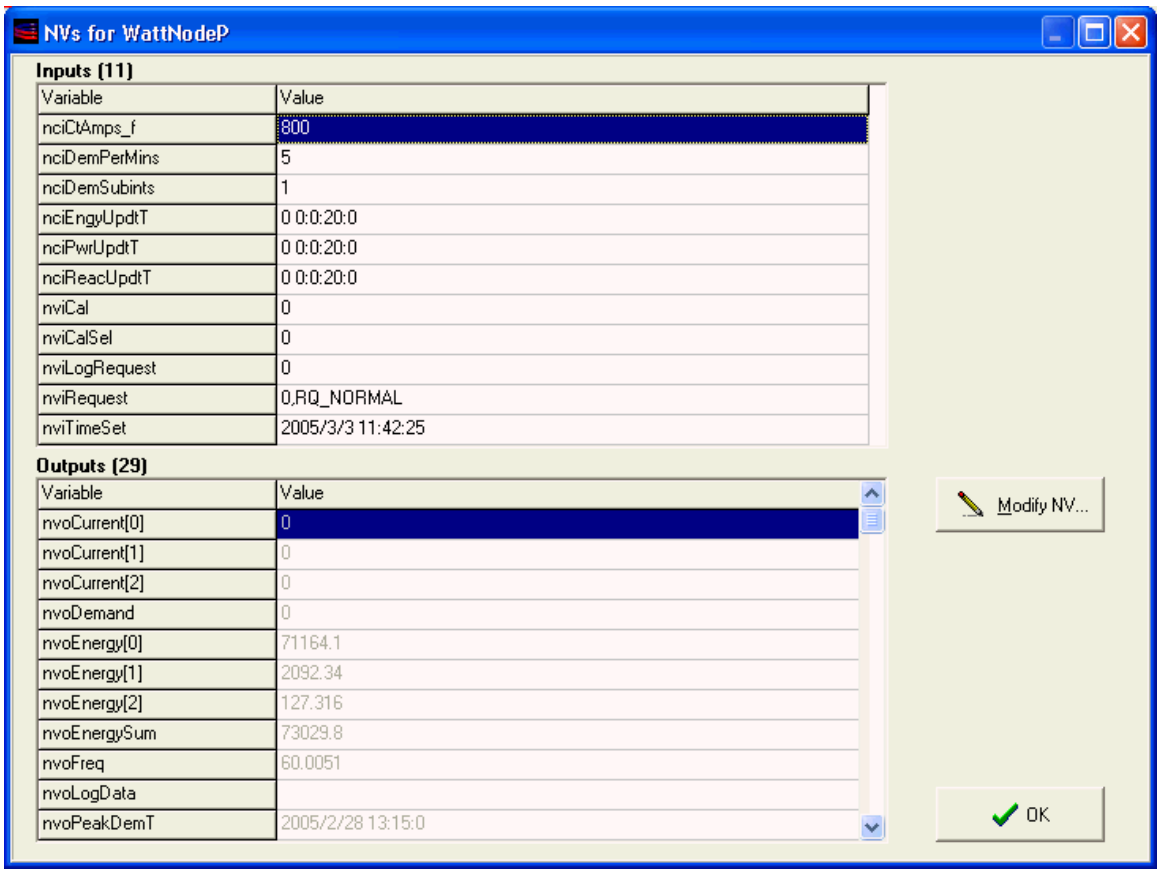


Figure 5 – Network variables window

Click **OK** to close the **Network Variables** window.

9. Click **OK** to close the **Custom Node Information** window.
10. Click **Accept** to save the changes.

3.3 Dropping Custom Point

Preferably you should drop a WattNode custom point in the same view as the WattNode Plus node.

1. Drag and drop a CustomPoint icon from the **Components** toolbox to the view. As soon as the icon is dropped, the **Custom Point Definition** window opens. Select in dropdown list a Measure Point type.
2. You can select physical type from
   - Current – float
   - Energy – float
   - Frequency – float
   - Power- float
   - Power Factor – float
   - Voltage

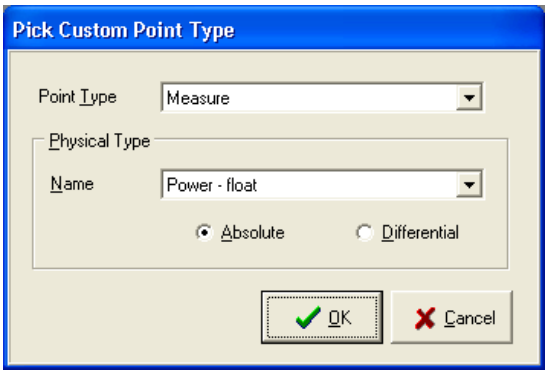


Figure 6 – Point type selection

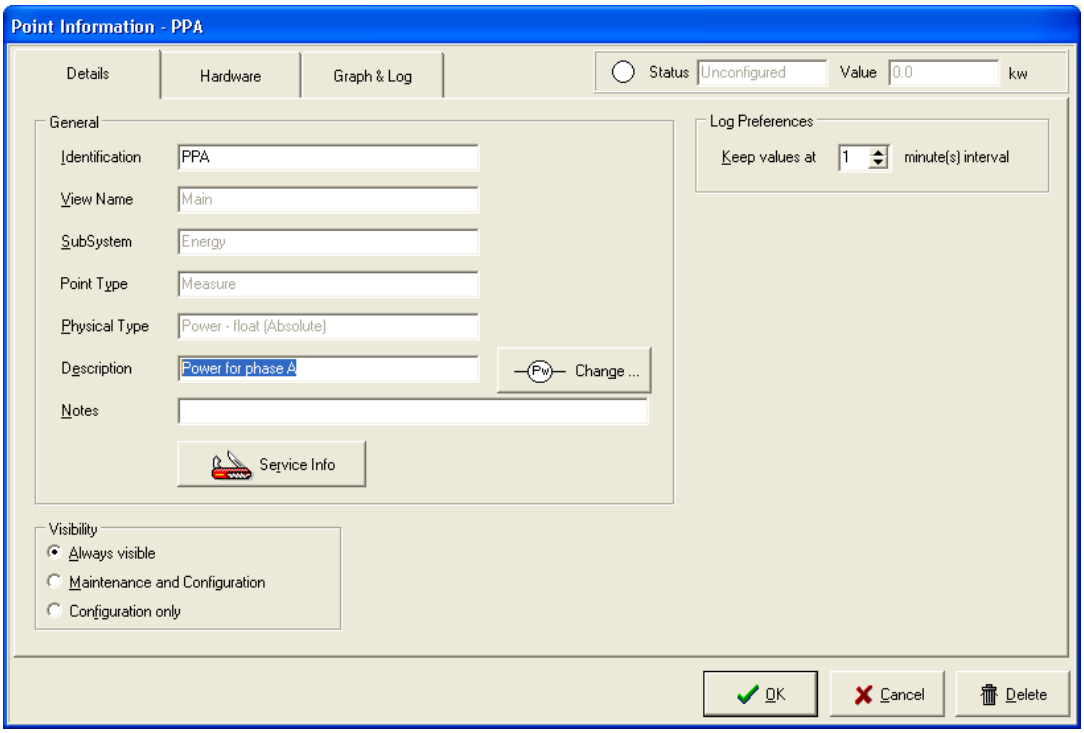
You need to select the proper physical type to be able to select the desired nvo (see the table 1. The Time_stamp type variable is not available in ver 4.1 for the nvoPeakDemT..

3. Click the **OK** button to finish or **Cancel** to start over.

To move an icon, select it while pressing the CTRL key and move it with the mouse.

4. After you dropped the CustomPoint on the view, click on it to bring the configuration window.

Figure 7 – Point Details tab



5. Fill the identification field; use an abbreviation for this field.
6. Put the purpose of this point in the description field
7. In the Hardware tab select the custom node name of the WattNode and the network variable that you want to monitor.

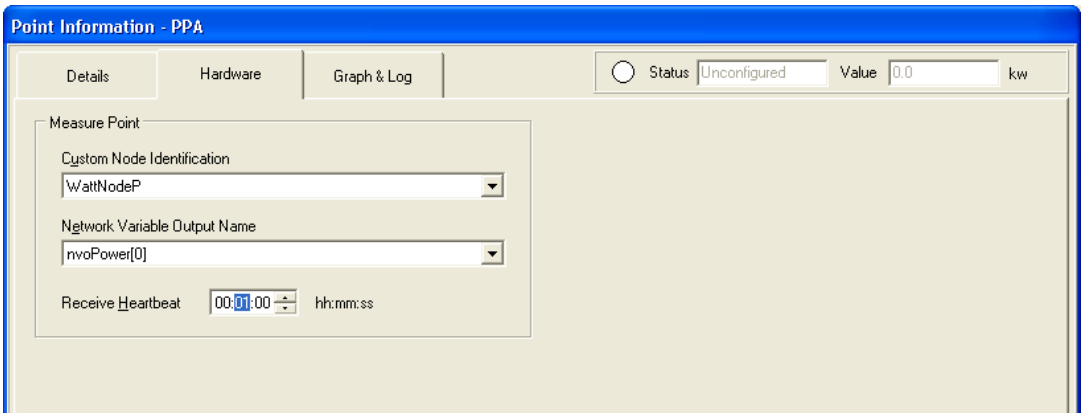


Figure 8 – Point Hardware tab

8. Set the Receive Heartbeat to 1 minute to be able to tell when you have a power drop out.
9. Click **OK**

Here is an example of a view layout of the WattNode Plus and Measure points.

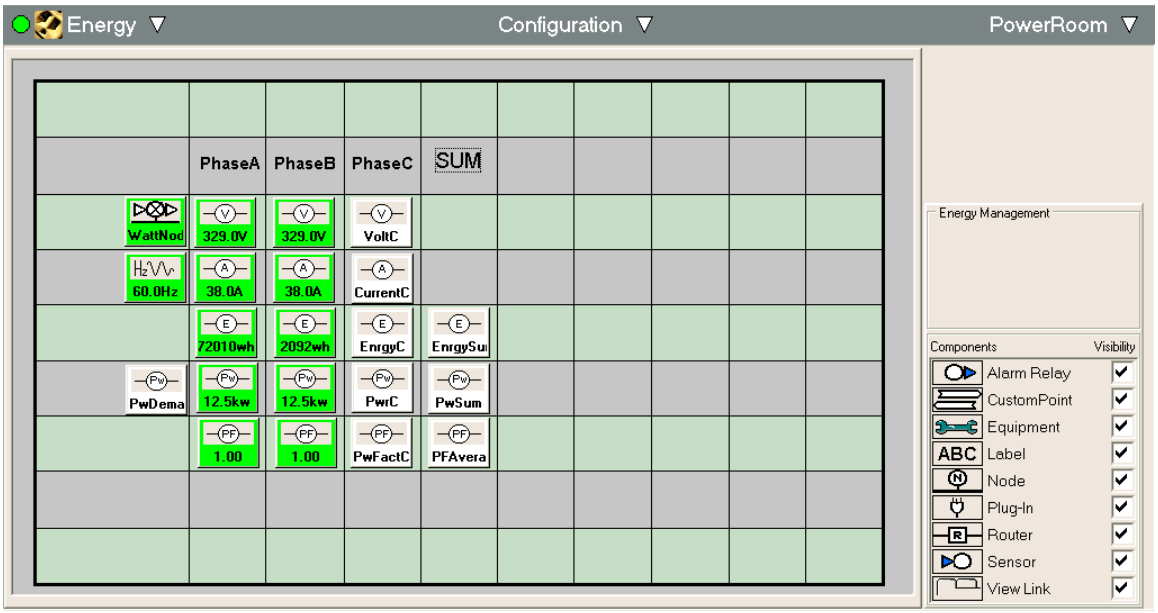


Figure 9 – Typical view in Alliance

3.4 On-Line and Wink

When the WattNode Plus is on-line the Service LED is off continuously except at the start and when we press the service button. If the Service LED is blinking the WattNode Plus is uninstalled

When a wink command is sent to the WattNode Plus its service LED light for 15 seconds.

3.5 Network variables

All output network variables have a bandwidth control parameters that are called Update Time (known in Lonworks as Max Send Time). There is one for each nvo group in bold, default values is 5 seconds and can be changed for something between 0 to 18h. We suggest 20 seconds. For many nvos after a power up or a reset the measured nvo is temporarily reset to 0 and will be updated at the end of the Update Time while other nvos send the real value right away. The nvoPkDemand must be polled as it is retransmitted after a reset or when it changes only.

Table 1

nvo Name	SNVT	Physical Type	Recom Max Send Tm	Def. Max Send Tm	Send On Delta	Power Up/Reset
nciPwrUpdtT	87	Elapsed time	20s	0-18h		
nvoPowerSum	57	Power – float	20s	5s		0
nvoPower[n]	57	Power – float	20s	5s		0
nvoCurrent[n]	48	Current – float	20s	5s		0
nvoVolts[n]	66	Voltage	20s	5s		0
nvoFreq	75	Frequency – float	20s	5s		Real value
nciEngyUpdtT	87	Elapsed time	20s	0-18h		
nvoEnergySum	68	Energy – float	20s	5s		Real value
nvoEnergy[n]	68	Energy – float	20s	5s		Real value
nvoReacEngySum	68	Energy – float	20s	5s		Real value
nciReacUpdtT	87	Elapsed time	20s			
nvoReacPwrSum	57	Power –float	20s	5s		0
nvoReacPwr[n]	57	Power –float	20s	5s		0
nvoPFavg	99	Power factor – float	20s	5s		Real value
nvoPF[n]	99	Power factor – float	20s	5s		Real value
nciDemPerMins	8	count	5m	5-720m		
nvoDemand	57	Power –float	5m	5m		0
Not repeated			Must be	polled		
nvoPkDemand	57	Power –float		new peak		Real value
nvoPeakDemT	84	Time stamp		new peak		Real value

4 Acknowledge a WattNode Plus test fail Alarm

Every hour or so MT Alliance test each node to make sure it is still powered and connected to the network. A node test fail occur when the MT Alliance can't communicate with the node or the node does not work properly during MT Alliance test routine.
The acknowledgement of the WattNode Plus test fail Alarm is done as follow:

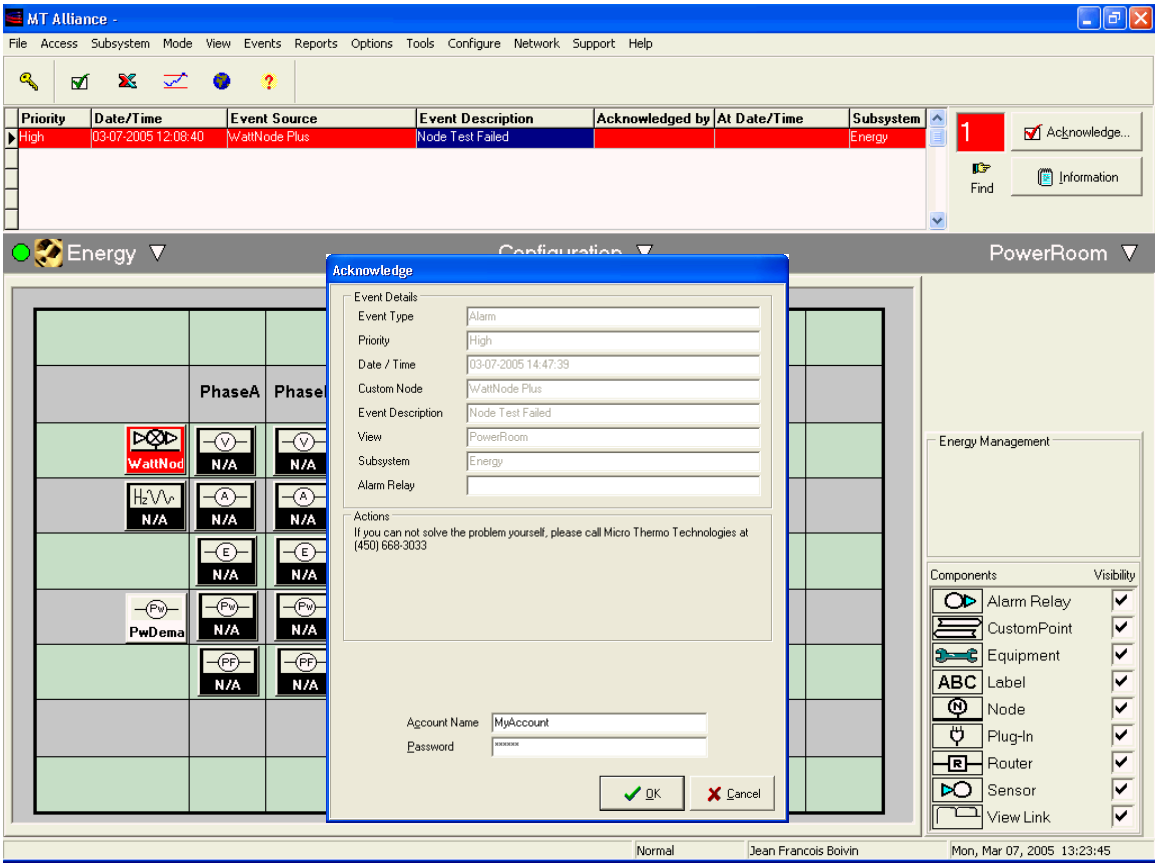


Figure 10 – Alarm acknowledging

Click on the **Acknowledge** button at the upper right of the screen.
Then enter your account and password and click **OK**.
The WattNode Plus button will stay red until it is fixed and the MT Alliance has made his next auto test or until a manual node test has been done. This button is invisible in overview mode.

5 Revision History

REV	Description	Revised by	Date
0.0	Creation of the document from 71-MTA-1018-R2.0	RL	01-mar-05
0.1	Ready for revising	RL	07-mar-05
0.2	Revised by JFB	RL	17-mar-05
0.3			
0.4	Final Revision	JG	24-Mar-05
1.0	Publication	RL	26-mai-06
1.1	Logo changed	RL	27-Mar-11
1.2	Cover page	ER	27-Feb-2015